# Best Available Science

Critical Areas Ordinance Information Sheet

## *Why is Best Available Science Required?*

The state Growth Management Act (GMA) requires that counties and cities must include the best available science (BAS) in developing policies and development regulations to protect the functions and values of critical areas. The GMA also requires that counties and cities give special consideration to protecting anadromous fisheries.

The goal of including best available science is to ensure that scientific information is considered by decision-makers that develop critical area policies and regulations. Through an administrative rule, the state gives guidance on how local governments can recognize and locate sources of valid scientific information and use that information in their decision-making processes. The rule also outlines what steps the local government should take if it cannot find enough applicable scientific information.

Best available science can be defined as "research conducted by qualified individuals using documented methodologies that lead to verifiable results and conclusions."[1] Local government may consult with scientific experts and the public to meet this objective. The state has published a list of recommended sources of best available science from state and federal agencies.

## *What is King County's Approach?*

Conservation, context, connectivity, and complexity are the organizing principles for King County's scientific framework for reviewing and assessing best available science for critical areas.

**Conservation -** The act of protecting, recovering, and managing an ecosystem, habitat, biological community, or species for its ecological, scientific, economic, or cultural value. Conservation encompasses both actions taken to protect ecosystems, habitats, and fish and wildlife species from further harm and actions taken to preserve future options for recovery. The scientific framework for conservation has changed dramatically over the last decades. Historically, the prevailing scientific view focussed on habitat and species as the central units of conservation, and viewed nature as stable and in equilibrium. A new view of nature has emerged that recognizes change at many scales of time and space. It is this dynamic and variable state of nature that results in diversified and healthy ecosystems and biological communities.

Incorporating best available science into county environmental regulations will influence natural resource protection, restoration, and conservation. Current scientific literature emphasizes several principles of natural systems that were not explained by the more static or classical view of nature. These principles, the Three Cs (context, connectivity, complexity), are briefly described below.

[1] Washington State Office of Community Development, "Citations of Recommended Sources of Best Available Science for Designating and Protecting Critical Areas," March 2002.

**Context -** All natural resource protection occurs within an ecologically defined context. The watershed is such a context, and is an appropriate scale for planning. A systems approach to watershed conservation includes consideration of how all of the components of a site function together within the site and also consideration of surrounding land uses.

**Connectivity -** Natural systems are open to the movement of materials, and energy, including species from outside the system; exchanges with other systems are common. An ecosystem's structure and dynamics are influenced by adjacent habitats and ecosystems. This linkage of one system to another is called connectivity. This principle directs human intervention to follow the ecological hierarchy - first identifying and restoring process, then structure, and then function.

**Complexity -** As natural systems mature and evolve, the resultant structural patterns and linkages among the physical, chemical, and biological elements of a system become increasingly complex. The extent of and degree of complexity is formed and driven by the changing patterns over time and the processes controlling those patterns. The contemporary view of ecology emphasizes these processes and the behavior of systems rather than static endpoints or stability.

## *Additional Information on Best Available Science*

King County has consulted many sources of information in the development of the proposed Critical Areas Ordinance. There may be other sources of relevant information about which King County is not aware. The county welcomes any information that will assist it in evaluating best available science for the proposed Critical Areas Ordinance. At the end of the public comment period, the county will consider all sources of information that have been provided using the methods recommended by the state.

## *To learn more*

To learn more, access one of the following Web sites:

http://www.metrokc.gov/ddes/cao

http://www.metrokc.gov/ddes/cao/PDFs/FinalBASOverviewDEC.pdf

http://www.ocd.wa.gov/info/lgd/growth/bas/index.tpl